

## AMENDMENTS TO THE CLAIMS

In accordance with 37 C.F.R. §1.121(c), please amend the claims as indicated in marked-up form below, where additions are underlined, deletions are struck through, and new claims are presented without markings. The following listing of claims is intended to replace all prior versions, and listings, of claims in the application:

Claims 1-22. (Canceled)

Claim 23. (Original) A method of manufacturing a wire bond-less electronic component for use with a circuit external to the wire bond-less electronic component, the method comprising:

mounting a semiconductor substrate over a support substrate, the semiconductor substrate supporting an electronic device; and

affixing a cover over the electronic device and the support substrate, the cover comprising:

an interconnect structure electrically coupling together the electronic device and the circuit for providing impedance transformation of an electrical signal between the electronic device and the circuit.

Claim 24. (Original) The method of claim 23 further comprising:

manufacturing the electronic device in the semiconductor substrate.

Claim 25. (Original) The method of claim 23 wherein:

affixing the cover further comprises:

simultaneously affixing the cover to the support substrate and electrically coupling together the electronic device and the interconnect structure.

Claim 26. (Original) The method of claim 23 wherein:

affixing the cover further comprises:

keeping the wire bond-less electronic component devoid of wire bonds; and  
electrically coupling together the electronic device and the interconnect structure.

Claim 27. (Original) The method of claim 23 wherein:

affixing the cover further comprises:

self-aligning the cover to the support substrate.

Claim 28. (Original) The method of claim 23 wherein:

affixing the cover further comprises:

self-aligning the cover to the semiconductor substrate.

Claim 29. (New) A method of manufacturing a wire bond-less electronic component for use with a circuit external to the wire bond-less electronic component, the method comprising:

mounting an electronic device over a support substrate; and

affixing a cover located over the electronic device and the support substrate, wherein the cover includes an interconnect structure electrically coupled to the electronic device and adapted to electrically couple together the electronic device and the circuit, the interconnect structure

further for providing impedance transformation of an electrical signal between the electronic device and the circuit.

Claim 30. (New) The method of claim 29, further comprising:

locating the interconnect structure within the cover.

Claim 31. (New) The method of claim 29 further comprising:

locating the interconnect structure on a surface of the cover.

Claim 32. (New) The method of claim 29 further comprising:

providing electrical leads located adjacent to the cover, wherein the interconnect structure electrically couples together the electronic device and the electrical leads, and wherein the electrical leads are adapted to electrically couple together the interconnect structure and the circuit.

Claim 33. (New) The method of claim 29 wherein:

the wire bond-less electronic component includes a surface mount device.

Claim 34. (New) The method of claim 29 further comprising:

self-aligning the cover to the support substrate.

Claim 35. (New) The method of claim 29 further comprising:

supporting a device substrate with the support substrate; and

self-aligning the cover to the device substrate, wherein mounting the electronic device includes mounting the electronic device to the device substrate.

Claim 36. (New) The method of claim 29 wherein:

the impedance transformation includes a zero inductance ground potential for the electronic device.

Claim 37. (New) The method of claim 36 further comprising:

providing an electrical terminal at least partially located over the cover; and  
electrically coupling the electrical terminal to a portion of the interconnect structure providing the zero inductance ground potential.

Claim 38. (New) The method of claim 37 further comprising:

locating the portion of the interconnect structure providing the zero inductance ground potential adjacent to an outer perimeter of the cover.

Claim 39. (New) The method of claim 29 wherein:

the interconnect structure includes a matching network.

Claim 40. (New) The method of claim 29 wherein:

the interconnect structure includes a first portion comprising a direct current bias circuit and a second portion comprising an impedance transformation circuit.

Claim 41. (New) The wire bond-less electronic component of claim 29 wherein:  
the interconnect structure includes a combining manifold.

Claim 42. (New) The wire bond-less electronic component of claim 29 wherein:  
the interconnect structure provides harmonic termination of the electrical signal between  
the electronic device and the circuit.

Claim 43. (New) The method of claim 29 further comprising:  
providing an additional electronic device over the support substrate, under the cover, and  
adjacent to the electronic device; and  
electrically coupling the additional electronic device to the interconnect structure.

Claim 44. (New) The method of claim 29 wherein:  
the interconnect structure includes a multi-layer interconnect structure.

Claim 45. (New) The method of claim 29 wherein:  
the interconnect structure includes an electrically floating portion located within the  
cover.

Claim 46. (New) A method of manufacturing a wire bond-less electronic component for  
use with a circuit external to the wire bond-less electronic component, the method comprising:  
supporting a semiconductor substrate with a flange;  
supporting a semiconductor device with the semiconductor substrate; and

locating a lid over the semiconductor device, the semiconductor substrate, and the flange, wherein the lid includes a multi-functional interconnect system electrically coupled to the semiconductor device and adapted for electrically coupling together the semiconductor device and the circuit, the interconnect system further for providing a direct current to the semiconductor device and for providing impedance transformation of electrical signals between the semiconductor device and the circuit.

Claim 47. (New) The method of claim 46 wherein:

the multi-functional interconnect system is embedded within the lid.

Claim 48. (New) The method of claim 46 wherein:

the multi-functional interconnect system is located adjacent to a bottom surface of the lid.

Claim 49. (New) The method of claim 46 wherein:

the lid self-aligns to the flange.

Claim 50. (New) The method of claim 46 wherein:

the lid self-aligns to the semiconductor substrate.

Claim 51. (New) The method of claim 46 wherein:

the multi-functional interconnect system includes a direct current bias circuit for providing the direct current to the semiconductor device, an impedance transformation circuit for

providing the impedance transformation of the electrical signals between the semiconductor device and the circuit, and a power combining manifold.

Claim 52. (New) The method of claim 51 wherein:

the direct current bias circuit is separate from the impedance transformation circuit.

Claim 53. (New) The method of claim 51 wherein:

the impedance transformation circuit further provides harmonic termination of the electrical signals between the semiconductor device and the circuit.